

ABSTRACT OF THE DISCLOSURE

A high-strength steel sheet comprises carbon: 0.06 to 0.25 mass%, Si: 0.5 to 3.5 mass% and Mn: 0.7 to 4 mass%. Its mother structure is ferrite, its second phase structure comprises martensite and the residual austenite and the second phase structure measured by image analysis has an area fraction of 25 % or less based on the total structure. The steel sheet satisfies the following requirements (1) to (3): (1) the volume fraction ($V_{t\gamma_R}$) of the residual austenite is 5 % or more; (2) the ratio ($SF_{\gamma_R}/ V_{t\gamma_R}$) of the area fraction (SF_{γ_R}) of the residual austenite within ferrite to $V_{t\gamma_R}$ is 0.65 or more; and (3) the ratio [$\alpha_2/(\alpha_1 + \gamma_R)$] of the space factor (α_2) of martensite to the second phase structure ($\alpha_1 + \gamma_R$) is 0.25 to 0.60. The steel sheet has excellent balance between strength and local elongation, and a low yield ratio.